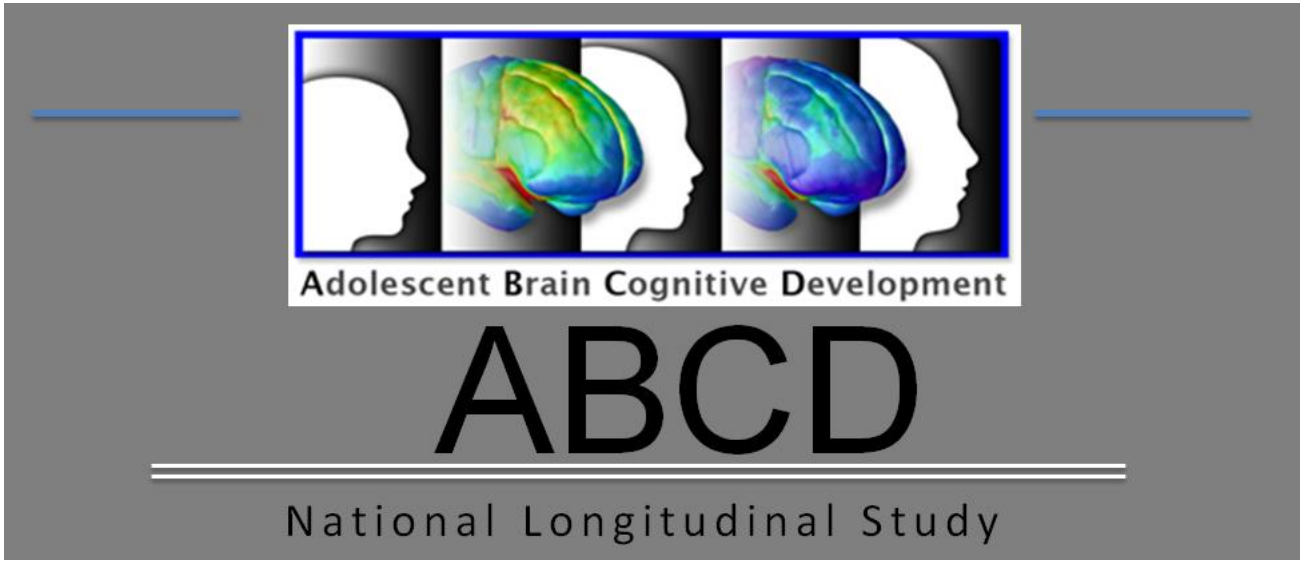
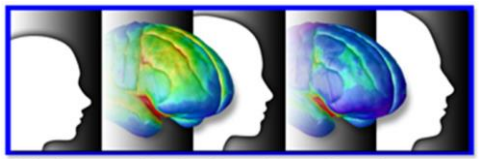


Michael E. Charness, MD
VA Boston Healthcare System

ABCD: Request for Information

- 41 unique responses (including comments on the Directors' blog); 18 from research consortia or constituent organizations
- Responses from 18 different states and Canada, with the most coming from California (6 total)
- Responses focused primarily on issues of sampling strategy and potential challenges and obstacles



Optimal sampling strategies to establish a rich, informative, and representative community-based cohort.

- Identification of target population to which results will be generalized and use of ‘Sampling Core’
- Demographically representative with inclusion of “hard-to-reach” populations and oversampling of high-risk subjects
- Target age to capture sufficient drug-naïve participants
- Consider inclusion of family/sibling/twin matching

Sample size required for higher-order interaction effects of substance use exposures on brain structure and function.

- Sample size should account for anticipated attrition
- Practicality of achieving a sample size of 10,000 participants in 2 years

Data-sharing arrangement to balance need for open access with incentives for the data-collecting Principle Investigators.

- Data sharing plan, organization, and management
- Data procedures standardized across all sites
- Benefits and costs of delaying data release

Strategy to replicate/validate findings and avoid false positives due to the large number of experiment-wide comparisons.

- Consider statistical methods for validation and replication

Neuroimaging: most essential domains to assess.

- Must have high validity, generalizability, and potential to be translated

- Impulsivity
- Inhibitory Control
- Reward processing
- Stress Reactivity
- Working Memory
- Emotional Reactivity
- Executive Function
- Structural and functional connectivity (required measures)

Non-imaging: most essential domains to assess using neurocognitive and other behavioral measures.

- Sensitivity to consequences
- Decision-making
- Temporal discounting
- Memory
- Impulsivity
- Emotionality
- Reward responsivity
- Executive function
- Attention
- General intelligence

Most essential domains to assess psychosocial, environmental, and other risk and protective factors.

- Family environment
- Pre-natal drug exposure
- Peer influences
- Exposure to media
- Neighborhood
- Mental Illness (sub-clinical and clinical)
- Substance use
- Stress/trauma
- Reading ability

Obstacles or challenges likely to arise in a project of this magnitude and duration.

- Recruitment and retention
- Role of environment vs genetics
- Impact of different and multiple substances
- Overall management and coordination
- Ethics, e.g. incidental findings; how to address early or problematic alcohol, tobacco or other drug use

Additional information or suggestions, contact:

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